



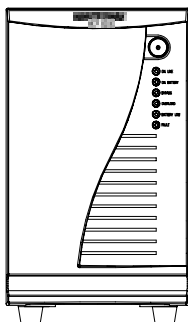
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## MCP Series

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Uninterruptible Power Supply

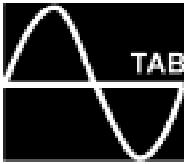
MCP 1000, MCP 1000i  
MCP 2000, MCP 2000i  
MCP 3000, MCP 3000i



User's Manual







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# MCP Series User's Manual

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## EXPLANATION OF SYMBOLS

Some or all of the following symbols may be used in this manual or may appear on your unit. Please take a moment to familiarize yourself with these symbols and their associated meanings.

Symbols and Their Meanings	
Symbol	Description
	Attention or consult accompanying documents
	Dangerous voltage
	On (power: connection to the mains) or output enabled
	Stand-by
	Alternating current
	Direct current
	Protective earth (ground)
	Alarm silence
	Overload
	Battery check
	Recyclable
	Do not dispose with ordinary trash

Thank you for purchasing a Minuteman power protection product. It has been designed and manufactured to provide many years of trouble free service.

## IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

Please read the manual before installing your MCP Series UPS as it provides the information that should be followed during installation and maintenance of the UPS and batteries allowing you to correctly set up your system for the maximum safety and performance.

Included is information on customer support and factory service if it is required. If you experience a problem with the UPS, please refer to the Troubleshooting guide in this manual to correct the problem or collect enough information so that the Minuteman Technical Support department can rapidly assist you.



**NOTICE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.



**WARNING!** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



## **Receiving Inspection**

After removing your Minuteman UPS from its carton, it should be inspected for damage that may have occurred in shipping. Immediately notify the carrier and place of purchase if any damage is found. Warranty claims for damage caused by the carrier will not be honored. The packing materials that your UPS were shipped in are carefully designed to minimize any shipping damage. In the unlikely case that the UPS needs to be returned to Minuteman, please use the original packing material. Since Minuteman is not responsible for shipping damage incurred when the system is returned, the original packing material is inexpensive insurance.

### **PLEASE SAVE THE PACKING MATERIALS!**



**WARNING! RISK OF ELECTRICAL SHOCK. HAZARDOUS LIVE PARTS INSIDE THIS POWER SUPPLY ARE ENERGIZED FROM THE BATTERY EVEN WHEN THE AC INPUT POWER IS DISCONNECTED.**

TO DE-ENERGIZE THE OUTPUTS OF THE UPS:

1. IF THE UPS IS ON, PRESS THE ON/OFF BUTTON.
2. DISCONNECT THE UPS FROM THE AC POWER OUTLET.
3. TO DE-ENERGIZE THE UPS COMPLETELY, DISCONNECT THE BATTERY.



**CAUTION!** TO REDUCE THE RISK OF ELECTRICAL SHOCK IN CONDITIONS WHERE LOAD EQUIPMENT GROUNDING CANNOT BE VERIFIED, DISCONNECT THE UPS FROM THE AC POWER OUTLET BEFORE INSTALLING A COMPUTER INTERFACE CABLE. RECONNECT THE POWER CORD ONLY AFTER ALL SIGNALING CONNECTIONS ARE MADE.



**CAUTION!** CONNECT THE UPS TO A TWO POLE, THREE WIRE GROUNDING AC POWER OUTLET. THE RECEPTACLE MUST BE CONNECTED TO APPROPRIATE BRANCH PROTECTION (CIRCUIT BREAKER OR FUSE). CONNECTION TO ANY OTHER TYPE OF RECEPTACLE MAY RESULT IN A SHOCK HAZARD AND VIOLATE LOCAL ELECTRICAL CODES.

**NOTE:** FOR HARDWIRE I/O CONFIGURATIONS FOR THE MCP 2000(i) AND THE MCP 3000(i), UNITS ARE CONSIDERED FIXED. AN INSULATED GROUNDING CONDUCTOR SHOULD BE IDENTICAL IN SIZE, THICKNESS, AND INSULATION MATERIAL TO THE GROUNDED AND UNGROUNDED BRANCH-CIRCUIT SUPPLY CONDUCTORS. THE WIRE, WHICH SHOULD BE GREEN OR GREEN WITH ONE OR MORE YELLOW STRIPES, IS TO BE INSTALLED AS PART OF THE BRANCH CIRCUIT THAT SUPPLIES THE UNIT. THE GROUNDING CONDUCTOR DESCRIBED IN THE ABOVE ITEM SHALL BE GROUNDED TO THE EARTH END OF THE PROTECTED EQUIPMENT.

**NOTE:** OVERCURRENT PROTECTION IS TO BE PROVIDED BY OTHERS.

**NOTE:** THE SOUND PRESSURE LEVEL AT THE OPERATORS POSITION ACCORDING TO IEC 704-1:1982 IS EQUAL TO OR LESS THAN 70dB(A).

## Para Systems Life Support Policy



As a general policy, Para systems Inc. (Para Systems) does not recommend the use of any of its products in life support applications where failure or malfunction of the Para Systems product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness. Para Systems does not recommend its products for use in direct patient care. Para Systems will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to Para Systems that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of Para Systems Inc. is adequately protected under the circumstances.

Examples of devices considered to be life support devices are neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), auto transfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators for both adults and infants, anesthesia ventilators, and infusion pumps as well as any other devices designated as "critical" by the United States FDA.

Hospital grade wiring devices and leakage current may be ordered as options on many PARA SYSTEMS UPS systems. PARA SYSTEMS does not claim that units with this modification are certified or listed as Hospital Grade by PARA SYSTEMS or any other organization. Therefore, these units do not meet the requirements for use in direct patient care.

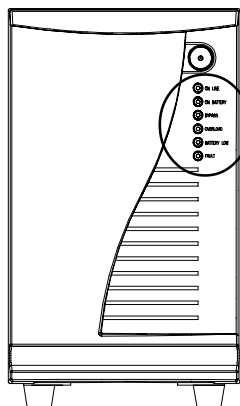
### EEC Conformity Declaration

- These devices comply with the regulations of the following guide-lines:
- 73/23/EEC guideline of the Council for approximation of the legal regulations of the EC countries concerning the electrical apparatus within certain voltage tolerances, modified by the guideline RL 93/68/EEC of the Council.
- 89/336/EEC guideline of the Council for approximation of the legal regulations of the EC countries concerning the electromagnetic compatibility, modified by the guidelines RL 91/236/EEC, and 93/68/EEC of the Council.
- The compliance with the following standards proves the conformity:
  - EN 50091-1
  - EN 55022/EN 55011, class B.

## CONTROLS AND INDICATORS

2

### FRONT PANEL



MCP Series 1000(i), 2000(i), and 3000(i) KVA front panel

### POWER SWITCH

Press and release the power switch button to turn the unit on or off.

### LED INDICATORS

**ON LINE LED:** This indicates that the AC line is normal.

**ON BATTERY LED:** This indicates that the UPS is in battery mode.

**BYPASS LED:** This indicates bypass is active.

**OVERLOAD LED:** This indicates the connected load exceeds the rated output of the UPS.

**BATTERY LOW LED:** This indicates low battery voltage in the UPS.

**FAULT LED:** Indicates an internal fault in the UPS (contact Minuteman Technical Support).



## REAR PANEL

The **Computer Interface ports** are for UPS monitoring and control. There are two female DB-9's for interface connection, one for RS-232 communication and one for Dry Contact interface signals.

The **External Battery Connector** is for adding more battery capacity to the UPS. Available on the MCP 2000(i) and MCP 3000(i) only.

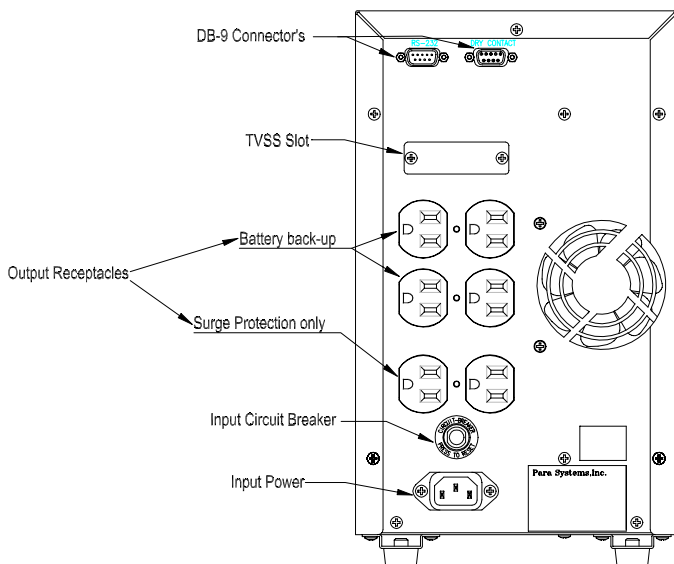
The **TVSS Slot** is for a modular connection used for 10 Base-T network protection and single or multi-line telephone surge protection (Optional).

The **Input Circuit Breaker** will trip in the event the load exceeds the UPS's power rating.

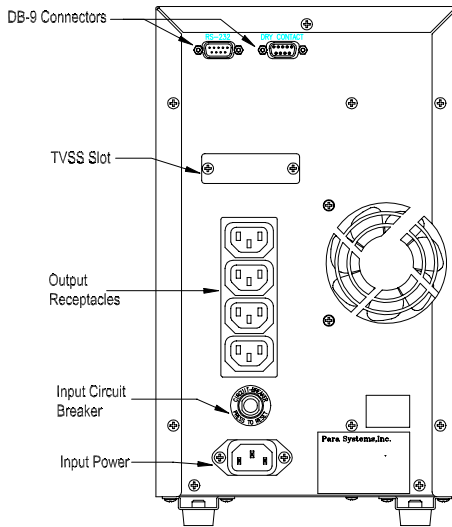
The **Output Circuit Breaker(s)** will trip in the event the load exceeds the UPS's power rating.

The **Output Receptacles** for each model vary and are dependent upon voltage requirements for domestic or international applications. See drawings of rear panels for specific models to determine standard output receptacle configuration. Optional output configurations are available for the MCP 2000(i) and MCP 3000(i) units only. Call Minuteman for details.

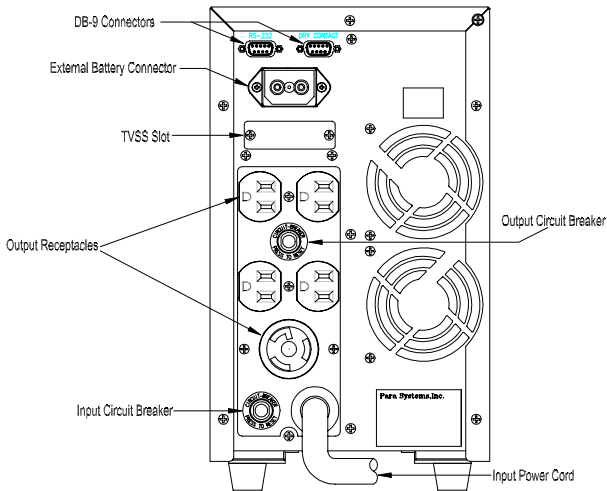
The **Input Power** connection varies on all models. For units utilizing IEC input sockets, input power cords are included. The following cords are standard for input power connections for the following models: MCP 1000(IEC 320 C-13/5-15P), MCP 1000i(IEC 320 C-13/C-14), MCP 2000i(IEC 320 C-13/C-14), and MCP 3000i(IEC 320 C-19/pigtail). The MCP 2000 and MCP 3000 utilize a standard 6ft. L6-30P strain relief power cord. Optional input configurations are available for the MCP 2000(i) and MCP 3000(i) units only. Call Minuteman for details.



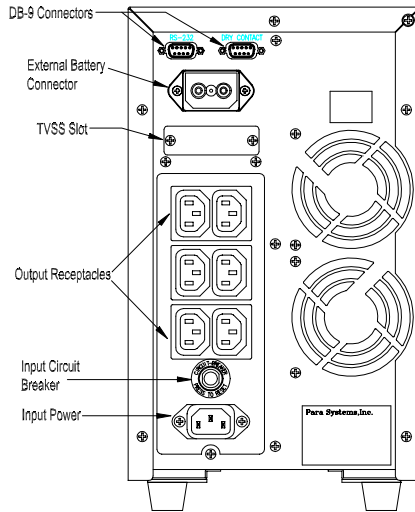
MCP 1000 Rear Panel



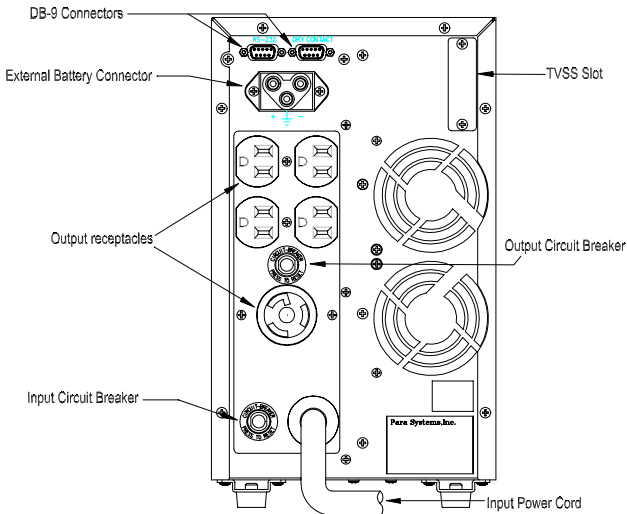
MCP 1000i Rear Panel



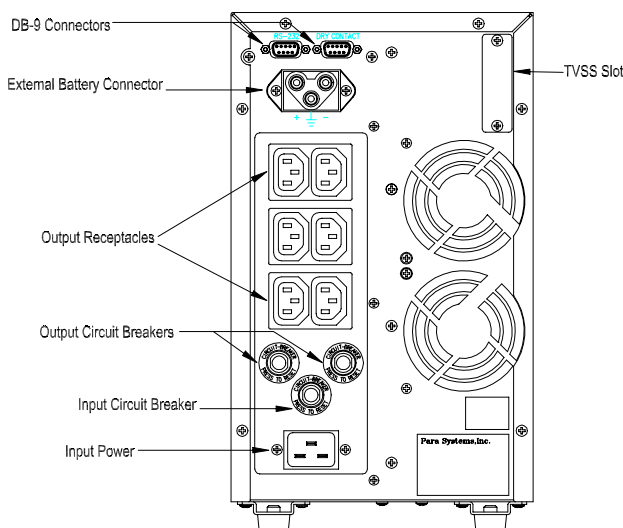
MCP 2000 Rear Panel



**MCP 2000i Rear Panel**



**MCP 3000 Rear Panel**



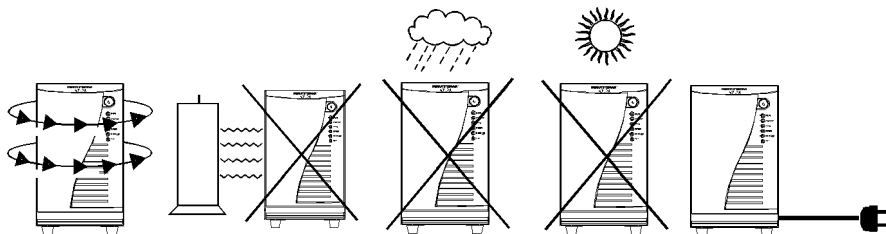
MCP 3000i Rear Panel

## **INSTALLATION** **3**

### **INSTALLATION PLACEMENT**

The safe and continuous operation of the UPS depends partially on the care taken by the user. Please note the following precautions:

- Install the UPS in a temperature controlled, indoor environment that is free of conductive contaminants.
- Select a location that will provide good air circulation for the UPS at all times.
- Avoid locations near heating devices, water, or excessive humidity, or where the UPS may be exposed to direct sunlight.
- Select a location sturdy enough to handle the weight of the UPS.
- After placement is complete, plug the UPS into a two pole, three wire, grounded receptacle (For hardwire I/O configurations for the MCP 2000(i) and the MCP 3000(i), units are considered fixed. An insulated grounding conductor should be identical in size, thickness, and insulation material to the grounded and ungrounded branch-circuit supply conductors. The wire, which should be green or green with one or more yellow stripes, is to be installed as part of the branch circuit that supplies the unit. The grounding conductor described in the above item shall be grounded to the earth end of the protected equipment.)
- Route power cords so they cannot be walked on or damaged.



## **COMPUTER INTERFACE CONNECTIONS**

Minuteman Power Management software and interface cables kits are used with these ports (software and cables are optional and available from Minuteman). Use only Minuteman or Minuteman approved interface cables with these UPS's. Connect the interface cable to the DB-9 connector on the rear of the UPS (either RS-232 or Dry Contact). Secure the connector to the UPS via the screws on the connector housing. Connect the other end of the cable to the device that will be monitoring/controlling the UPS.

**NOTE: CONNECTING TO THE DB9s ARE OPTIONAL. THE UPS WORKS PROPERLY WITHOUT A CONNECTION.**

## **TELEPHONE/NETWORK SURGE PROTECTION CONNECTION (OPTIONAL)**

Connect a single or multi-line telephone or a 10 Base-T network line to the protection sockets on the rear of the UPS. This connection will require another length of telephone or network cable. The cable coming from the telephone service or networked system is connected to the port marked "IN". The port marked "OUT" is connected to the equipment to be protected.

**NOTE: CONNECTING TO THIS PORT IS OPTIONAL. THE UPS WORKS PROPERLY WITHOUT A CONNECTION.**

## **EXTERNAL BATTERY CONNECTOR**

This is only available on the MCP 2000(i) and the MCP 3000(i) UPS's. The battery pack is available from Minuteman. Battery packs may be daisy chained to extend its runtime. The use of any other battery pack unspecified by Minuteman may damage the UPS and void the warranty.

## **CHARGING THE BATTERIES**

The Continuous Power Series UPS's will charge the batteries whenever the unit is connected to an AC source. It is recommended that the UPS batteries be charged for a minimum of 4 hours before use. The UPS may be used immediately. However, the "On battery" run time may be less than normally expected.

## **CONNECTING YOUR EQUIPMENT**

Plug the equipment into the receptacles on the rear of the unit. Ensure that you do not exceed the maximum output rating of the UPS (refer to the back panel of the UPS or the electrical specifications in this manual).

**NOTE:** For hardwire I/O configurations for the MCP 2000(i) and the MCP 3000(i), units are considered fixed. When connecting equipment to hardwire I/O configurations ensure use of proper size gauge wires for all connections.



**CAUTION! DO NOT CONNECT A LASER PRINTER TO THE UPS UNLESS THE UPS IS RATED 2000VA OR GREATER. A LASER PRINTER DRAWS SIGNIFICANTLY MORE POWER WHEN PRINTING THAN AT IDLE AND MAY OVERLOAD THE UPS.**



## **TURNING THE UNIT ON/OFF**



Press and release the ON/OFF switch to turn the unit on and supply power to the load. All LED's will remain lit for approximately 2-3 seconds. The Bypass LED will remain on for approximately 15 seconds. The UPS will then switch from the Bypass LED to the On-line LED indicating AC line is normal and UPS is capable of protecting connected equipment. Press and release the switch again to turn the UPS off. The UPS will continue to charge the batteries whenever the unit is connected to an outlet source and AC power is present.

## **ALARMS**

### **ON BATTERY**

When the UPS is operating on battery, the "ON BATTERY" LED will light continuously and the audible alarm will sound every 30 seconds. The alarm will stop once the UPS returns to on-line operation or the UPS shuts down.

### **UPS FAULT**

When the UPS detects a hardware fault, the "FAULT" LED will illuminate and the UPS will emit a constant tone. The fault condition can be re-set by turning the UPS off and then on.

### **OVERLOAD**

When the amount of load attached to the UPS exceeds its power rating, the "OVERLOAD" LED will illuminate and the UPS will emit a continuous, steady tone. This alarm will remain on until the excess load is removed or the UPS's self protection circuit shuts the UPS down.

### **OVERVOLTAGE**

When the input utility voltage exceeds the rated input voltage of the UPS, the "BYPASS" LED will remain lit while the On-Line LED blinks simultaneously with the sound of the alarm. The UPS will transfer to battery mode and supply the loads through the battery.

### **LOW BATTERY WARNING**

The UPS will emit a tone every 5 seconds when the battery reserve runs low. It continues to emit the tone until AC returns or the UPS shuts down from battery exhaustion.

## COMMUNICATION INTERFACE

### (1) RS232

NC-----	1	NC-----	6
TXD-----	2	NC-----	7
RXD-----	3	NC-----	8
NC-----	4	NC-----	9
Signal Ground---	5		

Pin2: UPS transmits serial data to computer.

Pin3: UPS receives serial data from computer.

Pin5: Signal ground.

The RS232 communication port provides the following features:

- .. Monitoring charger status
- .. Monitoring battery status and condition
- .. Monitoring inverter status
- .. Monitoring UPS status
- .. Monitoring the utility status
- .. Remote control shutdown of UPS

All information is provided in ASCII format.

#### HARDWARE:

BAUD RATE \_\_\_\_\_ 2400 BPS  
 DATA LENGTH \_\_\_\_\_ 8 bits  
 STOP BIT \_\_\_\_\_ 1 bit  
 PARITY \_\_\_\_\_ NONE

#### CABLING:

<u>COMPUTER</u>		<u>UPS</u>
RX (Pin2)	↯	TX (Pin2)
TX (Pin3)	Ⓡ	RX (Pin3)
GND (Pin5)	Ⓡ	GND (Pin5)

### (1) DRY CONTACT

NC-----	1	Low Battery-----	6
NC-----	2	NC-----	7
Shut Down-----	3	NC-----	8
AC Fail-----	4	NC-----	9
Signal Ground---	5		

Pin4: Output signal transfers from HIGH to LOW during utility failures. The pin is normally HIGH.

Pin6: Output signal transfers from HIGH to LOW upon battery low. The pin is normally HIGH.

Pin9: The UPS will shut down when HIGH remains constant for at least 3.8 seconds.

Pin5: Signal ground.



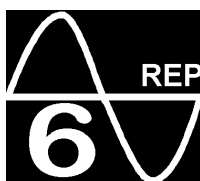
# TROUBLESHOOTING

## 5

### TROUBLESHOOTING CHART

Symptom	Possible Cause	What To Do
UPS not on	Power switch is in Off position. No incoming utility.	Press On button. Check utility power.
On Battery LED is illuminated even though there is normal AC present	Input AC breaker is tripped. No incoming utility.	Reset circuit breaker. Check input power connection.
Fault LED is illuminated	UPS has detected an internal fault.	Turn UPS off, then on again. If Fault LED remains on contact Minuteman Technical Support.
UPS does not provide expected backup time	The batteries may be weak or at the end of useful service life. Charger failure.	Charge the batteries for 10 hours and retest. If the backup time is still less than expected, the batteries may need to be replaced, even though the Battery Low LED is not illuminated.
Overload LED is illuminated	Connected loads exceed UPS rating.	Remove excess load.
Battery Low LED is illuminated	Weak or bad batteries, or bad battery connection. Remaining battery power supply is low.	Check the battery connection and/or replace the batteries. Connect additional battery pack if available.
Communication does not work properly	Incorrect cabling.	Refer to communication interface of this manual.





## REPLACING THE BATTERY

### REPLACING THE BATTERIES



**WARNING!** This uninterruptible power source contains potentially hazardous voltages. It is recommended that you turn the UPS off and disconnect the input power cord from the receptacles prior to connecting or disconnecting the battery terminals. Only UPS's that have external battery packs can be changed "HOT", that is with your AC power connected to the unit, and while supplying power to your equipment. If battery pack(s) MUST be changed while power is on, they can only be changed while the AC line is supplying power to the protected equipment. Be EXTREMELY careful while plugging or unplugging additional battery packs. Ensure that the cable connectors have the positive and negative terminals aligned before plugging together. Improper alignment may result in a short circuit that can destroy the battery packs and the UPS, as well as causing a fire and injury hazard.

### Please read the following warning statements before attempting to service the batteries.

- .. Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- .. These sealed lead-acid batteries have pressure operated vents.
- .. When replacing batteries, replace with the same number of the following type: Matsushita (Panasonic) Electric Works Type LCR12V7.2P (12V 7.2 AH) or CSB Battery Co., Ltd. Type GP1270F2 (12V 7.0AH). All units including the battery packs utilize the type batteries.
- .. **CAUTION-**Do not dispose of any battery in a fire as it may explode. Lead-acid batteries generate hydrogen gas. Do not smoke when near batteries.
- .. **CAUTION-**Do not open or mutilate the battery or batteries. The electrolyte is a dilute sulfuric acid. Released electrolyte is harmful to the skin and eyes. It may be toxic. It is electrically conductive and corrosive.
- .. **CAUTION-**A battery can present a risk of electric shock and high short circuit current. The following precautions should be observed when working on batteries:
  - Remove watches, rings and/or other metal objects.
  - Use tools with insulated handles.
  - Wear rubber gloves and boots. Wear full eye protection and protective clothing.

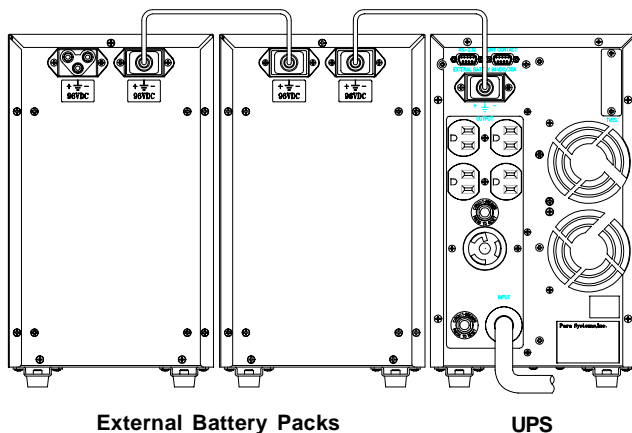
- If electrolyte contacts the skin, wash it off immediately with water. If electrolyte contacts the eyes, flush thoroughly and immediately with water. Seek medical attention.
- Determine if the battery is inadvertently grounded. If inadvertently grounded, remove source of ground. Contact with any part of a grounded battery can result in electric shock. The likelihood of such shock will be reduced if such grounds are removed during installation and maintenance.
- Do not lay tools or metal parts on top of batteries.
- Discharge static electricity from body before touching batteries by first touching a grounded metal surface.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Ensure all connections to the new batteries are EXACTLY the same as they were from the old batteries.
- Verify all of the battery brackets and mechanical fittings are replaced exactly as they were removed.
- Spilled electrolyte should be washed down with a suitable acid neutralizing agent. Use approximately 1 pound of bicarbonate soda to approximately one gallon of water. The solution should be added until reaction has ceased. The resulting liquid should be flushed with water.



**CAUTION!** These batteries are recyclable. The batteries contain lead and pose a hazard to the environment and human health if not disposed of properly. Refer to local codes for proper disposal requirements or return the batteries to MINUTEMAN.

## Battery pack connection:

Ex. MCP 3000 connected to 2-MCPBP3's





## **IF THE UPS REQUIRES SERVICE**

1. Use the **TROUBLESHOOTING** chart section 5 to eliminate obvious causes.
2. Verify that no circuit breakers are tripped. A tripped circuit breaker is the most common problem.
3. Call your dealer for assistance. If you cannot reach your dealer or if he cannot resolve the problem, call or fax Minuteman Technical Support at the following numbers: Voice phone (972) 446-7363, FAX line (972) 446-9011, e-mail: support@minuteman-ups.com. Please have the following information available BEFORE calling technical support:
  - A. Your Name and address.
  - B. Where and when the unit was purchased.
  - C. All of the model information on the rear of your MCP Series UPS.
  - D. Any information on the failure, including LEDs that may be illuminated.
  - E. A description of the protected equipment, including model numbers if possible.
4. A technician will ask you for the above information and, if possible, help solve your problem over the phone. In the event that the unit requires factory service, the technician will issue you a Return Material Authorization Number (RMA #). If the UPS is under warranty, the repairs will be done at no charge. If not, there will be a charge for repair.
5. Pack the UPS in its original packaging. If the original packaging is no longer available, ask the technical support technician about obtaining a new set. It is important to pack the UPS properly in order to avoid damage in transit. Never use Styrofoam beads for a packing material. Include a letter with your name, address, daytime phone number, RMA number, a copy of your original sales receipt, and a brief description of the trouble.
6. Mark the RMA# on the outside of all packages. The factory cannot accept any package without the RMA# marked on the outside.
7. Return the UPS by insured, prepaid carrier to:

Minuteman, Para Systems, Inc.  
1455 LeMay Drive  
Carrollton, TX 75007



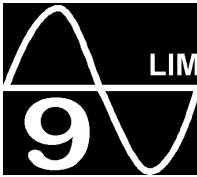
# SPECIFICATIONS

## 8

NOTE: 230VAC Specs Shown In ( )	MCP 1000 (MCP 1000i)	MCP 2000 (MCP 2000i)	MCP 3000 (MCP 3000i)
Acceptable Input Voltage	0-138 (0-275 VAC)		
Input Voltage (on-line operation)	88-138 (160-275 VAC)		
Power Factor	>0.97		
Output Voltage (on-line operation)	120VAC (220/230/240 VAC)	120VAC (208/220/230/240 VAC)	120VAC (208/220/230/240 VAC)
Transfer time	0ms (true-on-line)		
Maximum Load	1000VA/700W	2000VA/1400W	3000VA/2100W
Voltage regulation	±2%		
Nominal input frequency	50 or 60Hz auto-sensing		
Input protection	Manual reset circuit breaker		
Frequency limits (on-line operation)	50 or 60Hz ±2Hz		
THD	3%(Linear load); 6%(Rectifier load)		
Slew Rate	1 Hz/sec		
Overload capacity	105%-125% for 3 min., 125%-150% for 30 sec., > 150% for 1 sec.		
Crest factor	3:1		
Efficiency	80%	83%	85%
On-battery Output Voltage	120 VAC (230 VAC) ±2%		
On-battery frequency	50 or 60Hz ±1 Hz unless synchronized to utility during brownout		
On-battery wave shape	True sinewave		
Protection	Over-current and short circuit protected, latching shutdown on overload		
Surge energy rating (one time 10/1000ms waveform)	480J		
Surge current capability (one time, 8/20ms waveform)	6500 A maximum		
Surge response time	0ns (instantaneous) normal mode, <5ns common mode		
Surge voltage let through	< 0.3% of peak, typical (percentage of applied ANSI C62.41 cat A ±6V test wave form)		
10 Base-T surge protection let-through	<5% (As a percentage of an applied ±6kV 1.2/50ms, 500A 8/20ms test)		
Telephone line surge protection let-through	<1% (As a percentage of an applied ±6kV 1.2/50ms, 500A 8/20ms test)		
Noise filter	Normal and common mode EMI / RFI suppression		
Input(standard)*	6ft. NEMA 5-15P (IEC 320 C-14)	6ft. NEMA 5-30P (IEC 320 C-14)	6ft. NEMA 5-30P (IEC 320 C-20)
Output receptacles(standard)*	6 x NEMA 5-15R's 4-Battery back-up 2-Surge protected only (4 x IEC 320 C-13's)	4 x NEMA 5-15R's and 1 x L5-30R (6 x IEC 320 C-13's)	4 x NEMA 5-15R's and 1 x L5-30R (6 x IEC 320 C-13's)
Communication ports	2-female DB-9's(1-RS232 and 1-Dry Contact )		
Battery type: Spill proof, maintenance free, sealed lead acid	4 x 12V7AH	6 x 12V7AH	8 x 12V7AH
Battery Pack	N/A	Optional	Optional
Typical battery life	3 to 5 years depending on number of discharges and ambient temperature		
Typical recharge time	2 to 4 hours from 50% discharge		
Operating temperature	0 to 40 degrees C (+32 to 104 degrees F)		
Storage temperature	-15 to +45 degrees C ( +5 to +113 degrees F)		
Operating and storage relative humidity	0 to 95% non-condensing		
Operating elevation	0 to +3,000 m (0 to +10,000 ft.)		
Storage elevation	0 to +15,000 m (0 to +50,000 ft.)		
Electromagnetic immunity	IEC 801-2 LEVEL IV, 801-4 LEVEL IV, 801-5 LEVEL III		
Audible noise at 1 m (3ft.)	<45 dBA		
Size (H x W x D)	32.2 x 18.8 x 40.5 cm (12.7 x 7.4 x 15.9 in.)	32.2 x 18.8 x 47.6 cm (12.7 x 7.4 x 18.7 in.)	32.2 x 18.8 x 55.5 cm (12.7 x 7.4 x 21.9 in.)
Weight- Net (shipping)	20(24)Kg 44.1(52.9) lbs.	28(32)Kg 61.7(70.6) lbs.	39.2(42.7)Kg 86.4(94.2) lbs.
Safety and approval	Listed to UL 1778 Compliance to CSA 22.2; (TUV/GS)		
EMC Verification	FCC Class A (2.3KVA) Class B (1KVA); (CE; TUV/EMC)		

\*Options available. N/A for MCP 1000(i)

All specifications subject to change without notice.



## LIMITED PRODUCT WARRANTY

### LIMITED PRODUCT WARRANTY

Para Systems Inc. (Para Systems) warrants this equipment, when properly applied and operated within specified conditions, against faulty materials or workmanship for a period of three years from the date of original purchase by the end user. For equipment sites within the United States and Canada, this warranty covers repair or replacement of defective equipment at the discretion of Para Systems. Repair will be from the nearest authorized service center. Replacement parts and warranty labor will be borne by Para Systems. For equipment located outside of the United States and Canada, Para Systems only covers faulty parts. Para Systems products repaired or replaced pursuant to this warranty shall be warranted for the unexpired portion of the warranty applying to the original product. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

The warranty shall be void if (a) the equipment is damaged by the customer, is improperly used, is subjected to an adverse operating environment, or is operated outside the limits of its electrical specifications; (b) the equipment is repaired or modified by anyone other than Para Systems or Para Systems-approved personnel; or (c) has been used in a manner contrary to the product's operating manual or other written instructions.

Any technical advice furnished before or after delivery in regard to use or application of Para Systems' equipment is furnished without charge and on the basis that it represents Para Systems' best judgment under the circumstances, but it is used at the recipient's sole risk.

EXCEPT AS PROVIDED HEREIN, PARA SYSTEMS MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation of implied warranties; therefore, the aforesaid limitation(s) may not apply to the purchaser.

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Longer term and F.O.B. job site warranties are available at extra cost. Contact Para Systems (1-972-446-7363) for details.



NOTES:



**MINUTE MAN<sup>®</sup>**  
UNINTERRUPTIBLE POWER SUPPLIES

**Para Systems, Inc.**

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**Carrollton, TX 75007**

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